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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,462	04/20/2006	Louis Brissot	4590-491	7174
33308 7590 08/01/2008 LOWE HAUPTMAN & BERNER, LLP 1700 DIAGONAL ROAD, SUITE 300 ALEXANDRIA, VA 22314			EXAMINER PARKER, AUTUMN H	
			ART UNIT 2862	PAPER NUMBER
			MAIL DATE 08/01/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,462	Applicant(s) BRISSOT ET AL.	
	Examiner AUTUMN PARKER	Art Unit 2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-15, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20 Apr 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities: Claim 13 has a small typographical error. "Whereinthe" should be replaced with "wherein the" (p. 3 of amendments to the claims). Appropriate correction is requested.
3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

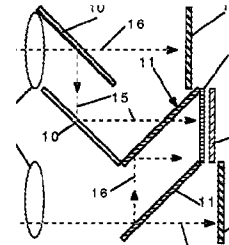
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 10-12, 14 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hall, U.S. Patent No. 5,692,226 (hereafter referred to as 'Hall').
6. Regarding Claims 10 and 18, Hall discloses a photographing device comprising:

- a sensor (Fig. 5, [12]);
- an optical means (Fig. 5, [10, 11]) through which the device receives light radiation in an object field and directs it toward the sensor;
- wherein the optical means comprise:
 - o at least one mirror (Fig. 5, [10, 11]);
 - o a plurality of entry pupils (Fig. 5, [9]), each observing a part of the object field;
 - o wherein the light radiation observed by each pupil is constantly directed toward a separate part of the sensor by the optical means (col. 5, lines 57-64).



7. Regarding Claim 11, Hall discloses the various parts of the object field partially overlap (col. 5, lines 38-56).

8. Regarding Claims 12 and 14, Hall discloses each part of the object field is associated with a useful part of an image plane formed on the sensor by the optical means, the various useful parts are separated by a space, and the entry pupils have a geometry similar to that of the useful parts (Figs. 4a and 4b).

9. Regarding Claim 17, Hall discloses the optical means comprise at least two mirrors associated with each part of the object field (Fig. 5, [10, 11]).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

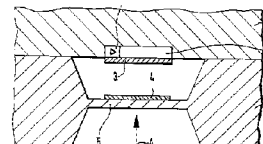
obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hall in view of Igel et al., U.S. Patent No. 6,370,960 (hereafter referred to as 'Igel').

14. Regarding Claim 13, Hall teaches the invention as claimed above. Hall does not teach the details of the image sensor, including the substrate and signal processing means. Igel, for example, teaches that signal processing means



may be positioned advantageously within the sensor substrate itself (Fig. 1). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have condensed the signal processing means within the spaces in the sensor substrate, as taught by Igel, in the invention as taught by Hall, for the purpose of maximizing the efficient use of space in order to miniaturize the component.

15. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hall in view of Sugawara, Pub. No. US 2001/0015847 (hereafter referred to as 'Sugawara').

16. Regarding Claim 15, Hall teaches the invention as claimed above. Hall does not teach that the optical means comprises at least one element with negative optical power. Sugawara, for example, teaches that negative lenses are known to be used in imaging systems (Fig. 1), particularly those with multiple pupil entry apertures. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have included a negative lens, such as the one taught by Sugawara, in the invention taught by Hall, for the purpose of changing the focal length so as to maximize the efficient use of space.

Allowable Subject Matter

17. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter: Claim 16 recites a limitation for the formation of the optical means, including at

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least one mirror and a plurality of pupil entry means, as a single transparent piece. The prior art of record teaches these components as separate pieces and there is no indication of a means or desire to make them in one continuous piece. As such, Claim 16 would be allowable over the prior art, including all of the limitations of the parent claim.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Maker, Pub. No. US 2003/0227696; Kimura et al., Pub No. US 2002/0105734; Uchiyama et al, Pub. No. US 2002/0025155; Hankawa et al, U.S. Patent No. 5,727,239.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AUTUMN PARKER whose telephone number is (571)270-3916. The examiner can normally be reached on Mon-Thurs, 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AP
28 July 2008

/Patrick J Assouad/
Supervisory Patent Examiner, Art Unit 2862